

WHAT IS CLAIMED IS:

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1. A semiconductor manufacturing apparatus comprising:
decision means for deciding start of a maintenance
operation inside a chamber; and

5 supply means for supplying a prescribed area inside
the chamber with a gas that contains oxygen if start of
the maintenance operation has been decided by said
decision means.

2. The apparatus according to claim 1, wherein the gas
10 containing oxygen is clean, dry air.

3. The apparatus according to claim 1, further
comprising an open/close sensor for sensing opening and
closing of a panel provided in an outer wall of the
chamber;

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15 wherein said decision means decides start of the
maintenance operation if said open/close sensor senses
that the panel has been opened.

4. The apparatus according to claim 1, further
comprising:

20 determination means for determining whether an
environment in the prescribed area of the chamber has
attained a safe level; and

notification means for giving notification of
results of the determination based upon said results.

25 5. The apparatus according to claim 4, wherein said
determination means includes a first sensor for sensing

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a lock mechanism for locking a cover, which is provided in an outer wall of the chamber, if said determination means determines that the environment is not at the safe level, and unlocking the cover if said determination means determines that the environment is at the safe level.

15 12. The apparatus according to claim 11, wherein said
decision means decides start of the maintenance
operation for each of the plurality of prescribed areas.

14. The apparatus according to claim 1, further
comprising a display, a network interface and a computer
25 for running network access software;

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15. The apparatus according to claim 14, wherein the network access software provides said display with a user interface for accessing a maintenance database provided by a vendor or user of the semiconductor

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16. A method of controlling a semiconductor manufacturing apparatus, comprising:

a supply step of supplying a prescribed area inside the chamber with a gas that contains oxygen if start of the maintenance operation has been decided by said decision step.

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18. The method according to claim 16, wherein said decision step decides start of the maintenance operation

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19. The method according to claim 16, further comprising:

25 a determination step of determining whether an
environment in the prescribed area of the chamber has
attained a safe level; and

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a notification step of giving notification of results of the determination based upon said results.

20. The method according to claim 19, wherein said determination step determines whether the environment is
5 at a safe level based upon results of sensing by a sensor for sensing oxygen concentration, said sensor being provided inside or in the vicinity of the prescribed area.

21. The method according to claim 19, wherein said
10 determination step determines whether the environment is at a safe level based upon results of sensing by a sensor for sensing ozone concentration, said sensor being provided inside or in the vicinity of the prescribed area.

22. The method according to claim 19, further
15 comprising a driving step of driving a fan provided in the vicinity of the prescribed area for at least for a period of time during which said determination step determines that the environment in the prescribed area
20 is not at a safe level.

23. The method according to claim 1, further comprising:

a determination step of measuring concentration of a predetermined gas component in an environment in the
25 prescribed area of the chamber, thereby determining whether the environment is at a safe level; and

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a display step of displaying results of measurement on a monitor by said determination step.

24. The method according to claim 16, wherein said decision step decides start of the maintenance operation
5 inside the chamber if a command for transition to a maintenance mode has been entered via a control console.

25. The method according to claim 16, further comprising:

a determination step of determining whether an
10 environment in the prescribed area of the chamber has attained a safe level; and

a lock control step of locking a cover, which is provided in an outer wall of the chamber, if said determination step determines that the environment is
15 not at the safe level, and unlocking the cover if said determination step determines that the environment is at the safe level.

26. The method according to claim 16, wherein a plurality of prescribed areas have been established
20 inside the chamber, and said supply step supplies a gas from a supply unit provided for each of the plurality of prescribed areas.

27. The method according to claim 26, wherein said decision step decides start of the maintenance operation
25 for each of the plurality of prescribed areas.

28. The apparatus according to claim 27, wherein said supply step executes supply of the gas from whichever of

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controlling said at least one semiconductor manufacturing apparatus based upon the information acquired.

31. The method according to claim 30, wherein

5 maintenance information for said semiconductor manufacturing apparatus is obtained by accessing, by data communication via the external network, a database provided by a manufacturer of a semiconductor device or by a user of said manufacturing apparatus, or production
10 management is performed by data communication with a semiconductor manufacturing plant other than the first mentioned semiconductor manufacturing plant via the external network.

32. A semiconductor manufacturing plant, comprising:

15 a plurality of items of semiconductor manufacturing apparatus;

a local-area network for interconnecting said plurality of semiconductor manufacturing apparatus; and

a gateway for connecting said local-area network
20 and an external network outside said semiconductor manufacturing plant;

wherein at least one of said semiconductor manufacturing apparatus includes:

25 decision means for deciding start of a maintenance operation inside a chamber; and

supply means for supplying a prescribed area inside the chamber with a gas that contains oxygen if start of

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